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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,874	07/07/2003	Jae Hong Jun	P68979US0	6969

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JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER	
QUARTERMAN, KEVIN J	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,874	JUN ET AL.	
	Examiner	Art Unit	
	Kevin Quarterman	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-13,15-19,21-27,30,32-41 and 46-54* is/are pending in the application.

4a) Of the above claim(s) *46-54* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-13,15-19,21-27,30 and 32-41* is/are rejected.

7)☒ Claim(s) *25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0804*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 July 2005 has been entered.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 3-6, 8-13, 15-19, 21-27, 30, and 32-41, drawn to plasma display devices, classified in class 313, subclass 582.

II. Claims 46-54, drawn to a method of manufacturing a plasma display device, classified in class 445, subclass 24.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the plasma display device including a display panel, a rear frame, and driving circuits can be made by depositing a porous pad on a sacrificial film, the porous pad being made by mixing a silicon material with a foam

agent, the concentration of the silicon material being greater than the concentration of the foam agent; attaching a rear frame to the porous pad; removing the sacrificial film; arranging the display panel on the porous pad, the porous pad being positioned between the display panel and the rear frame.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. Newly submitted claims 46-54 are directed to an invention that is independent or distinct from the invention originally claimed for the reasons given above.

9. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for

prosecution on the merits. Accordingly, claims 46-54 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

10. Claim 25 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 25 cites a limitation that the porous pad further includes a silicon material. Independent claim 22, upon which claim 25 depends, already includes a limitation of the porous pad including a silicon material. Thus, claim 25 does not further limit the subject matter of the previous claim.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 1, 3-6, 8-13, 15-19, 21-27, 30, and 39-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

13. Applicant has amended independent claims 1, 13, 22, 30, and 39 to include a limitation that the percentage amount of silicon material is higher than the percentage amount of the foam agent. Applicant's original disclosure does not mention or discuss this limitation in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner notes that applicant's original disclosure does mention "a mixture containing approximately 89% silicon, approximately 10% foam agent, and approximately 1% adhesive." However, the new limitation added to the claims broadens the original disclosure to include other percentages—e.g., approximately 50% silicon, approximately 40% foam agent, and approximately 10% adhesive.

14. Thus, the additional limitation of the porous pad being made of a material having a percentage amount of silicon material being higher than the percentage amount of the foam agent is considered to be **new matter**, since the additional term was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Due to their dependency upon independent claims 1, 13, 22, 30, and 39, claims 3-6, 8-12, 15-19, 21, 23-27, 32, 33, 40, and 41 are also rejected for failing to comply with the written description requirement.

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

17. Claim 21 recites the limitations "said porous pad" and "said pad" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim. It is unclear which porous pad applicant is referring to in the claim, since claim 13 cites "a porous pad" and claim 19 cites "a second porous pad."

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claims 1, 3-6, 8-13, 15-19, 21-27, 30, and 32-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isohata (US 6,288,489) in view of Ebihara (US 6,794,026).

21. Regarding independent claim 1, Figure 4 of Isohata shows a plasma display panel comprising a display panel (10) and a porous pad (18) made of a material that conducts heat provided at the display panel.

22. Isohata teaches the claimed limitations of independent claim 1, as discussed above, but fails to exemplify the material including silicon and a foam agent, wherein the percentage amount of silicon material is higher than the percentage amount of the foam agent.

23. Ebihara teaches that it is known in the art to provide plasma display panels with a porous pad made of a material including silicon and a foam agent provided at the display panel for distributing heat uniformly on a flat plane on which the layer is formed (col. 3, ln. 40-67 thru col. 4, ln. 1-14). Ebihara also discloses that the amount of silicon material may be varied (col. 3, ln. 54-56) and that additional silicone layers may be provided in the porous pad (col. 4, ln. 22-44), thus, suggesting that the amount of silicon may be optimized through routine experimentation.

24. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the display panel of Isohata with a porous pad including silicon and a foam agent, as taught by Ebihara, for improving the heat distribution of the device, since it is within the general skill of a worker in the art to select a known material based on its suitability for its intended use (MPEP § 2144.07).

25. Regarding claim 3, Figure 4 of Isohata shows a circuit board (11) mounted with a plurality of integrated circuits (col. 5, ln. 35) for applying driving signals to the display panel and a heatproof panel (17) arranged between the porous pad and the circuit board.

26. Regarding claim 4, Isohata discloses a double-faced tape having a heat-conducting function and provided between the display panel and the porous pad (col. 7, ln. 60-66).

27. Regarding claim 5, Figure 1 of Isohata shows a filter glass (21) provided at the front side of the display panel and a Figure 4 of Isohata shows a back cover (14, 15) covering the circuit board.

28. Regarding claim 6, Figure 4 of Isohata shows a second porous pad (16) provided between the circuit board and the back cover.

29. Regarding claim 8, Ebihara discloses the foam agent containing a urethane foam (col. 3, ln. 58).

30. Regarding claim 9, Figure 5 of Isohata shows an adhesive (1a) coated onto the porous pad.

31. Regarding claim 10, Isohata discloses the adhesive being made from an acrylic material (col. 7, ln. 65).

32. Regarding claim 11, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the material of Ebihara from a mixture containing approximately 89% silicon, approximately 10% foam agent, and approximately 1% adhesive, since where the general conditions of a claim are disclosed

in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

33. Regarding claim 12, Ebihara discloses a porous pad made of a material that absorbs noise/vibration (col. 3, ln. 40-67).

34. Regarding independent claim 13, Figure 4 of Isohata shows a plasma display panel comprising a display panel (10); a frame (17) adjacent a rear surface of the display panel; a circuit board (11, 12) adjacent a rear surface of the frame and connected thereto by fastening elements (13); and a porous pad (18) made of a material that conducts heat positioned between the display panel and the frame. Ebihara discloses a porous pad including a foam agent, as discussed earlier for independent claim 1.

35. Regarding claim 15, Ebihara discloses the foam agent being urethane (col. 3, ln. 57-60).

36. Regarding claim 16, Figure 5 of Ebihara shows the porous pad having an outer adhesive layer (6).

37. Regarding claim 17, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the porous pad of Ebihara from approximately 89% silicon, 10% foam agent, and 1% adhesive, since where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

38. Regarding claim 18, Figure 4 of Isohata shows an outer casing surrounding the plasma display panel having a back cover (14, 15) and a front cover (not labeled), the

back cover including a second porous pad (16) adhered to an inner surface thereof adjacent the circuit board. The Examiner notes that apparatus claims must be distinguished from the prior art in terms of structure rather than function (MPEP § 2114). Thus, the cited functions of the second porous pad have not been given patentable weight.

39. Regarding claim 19, Figure 4 of Isohata shows an outer casing surrounding the plasma display panel having a back cover (14, 15) and a front cover (not labeled), the back cover including a second porous pad (16) adhered to an inner surface thereof adjacent the circuit board. The Examiner notes that apparatus claims must be distinguished from the prior art in terms of structure rather than function (MPEP § 2114). Thus, the cited functions of the second porous pad have not been given patentable weight.

40. Regarding claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the porous pad of Ebihara from approximately 89% silicon, 10% foam agent, and 1% adhesive, since where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

41. Regarding independent claim 22, Figure 4 of Isohata shows a plasma display device comprising a display panel (10); a frame (17); and a porous pad (18) attached between the display panel and the frame. Ebihara discloses a porous pad including silicon and a urethane foam, as discussed earlier for independent claim 1.

42. Regarding claim 23, Isohata discloses a double-sided tape for thermal conduction between the display panel and the porous pad (col. 7, ln. 60-66).

43. Regarding claim 24, Figure 4 of Isohata shows a circuit board (11, 12) attached to the frame; a back cover (14, 15) covering the circuit board; and a second porous pad (16) provided between the circuit board and the back cover.

44. Regarding claim 25, Ebihara discloses the porous pad further comprising a silicon material (col. 3, ln. 57-60).

45. Regarding claim 26, Figure 5 of Isohata shows an adhesive coating (1a) on the porous pad.

46. Regarding claim 27, Isohata discloses the adhesive being made from an acrylic material (col. 7, ln. 65).

47. Regarding independent claim 30, Figure 4 of Isohata shows a plasma display device comprising a display panel (10) for displaying a picture; a frame (17) for supporting the display panel; a porous pad (18) between the display panel and the frame; and a double-sided tape (1a) for a thermal conduction between the display panel and the porous pad. Ebihara discloses a porous pad including a silicon material and a foam agent, as discussed earlier for independent claim 1.

48. Regarding claim 32, Figure 5 of Ebihara shows the porous pad further including an adhesive (6).

49. Regarding claim 33, Ebihara discloses the adhesive being made from an acrylic material (col. 5, ln. 64).

50. Regarding independent claim 34, Figure 4 of Isohata shows a display panel (10) for displaying a picture; a frame (17) for supporting the display panel; a circuit board (11, 12) attached to the frame; a back cover (14, 15) for covering the circuit board; and a porous pad (16) located between the circuit board and the back cover. Ebihara discloses a porous pad including a foam agent, as discussed earlier for independent claim 1.

51. Regarding claim 35, Ebihara discloses the foam agent being a urethane foam (col. 3, ln. 58).

52. Regarding claim 36, Ebihara discloses the porous pad further comprising a silicon material (col. 3, ln. 57-60).

53. Regarding claim 37, Figure 5 of Ebihara shows the porous pad further including an adhesive (6).

54. Regarding claim 38, Ebihara discloses the adhesive being made from an acrylic material (col. 5, ln. 64).

55. Regarding independent claim 39, Figure 4 of Isohata shows a plasma display device comprising a display panel (10) for displaying a picture; a frame (17) for supporting the display panel; and a porous pad (18) between the display panel and the frame. Ebihara discloses a porous pad including a urethane foam and a silicon material, as discussed earlier for independent claim 1.

56. Regarding claim 40, Figure 5 of Isohata shows the porous pad including an adhesive (1a).

57. Regarding claim 41, Isohata discloses the adhesive being made from an acrylic material (col. 7, ln. 65).

Response to Arguments

58. Applicant's arguments received 15 July 2005 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Quarterman
Examiner
Art Unit 2879

kq
29 October 2005

Joseph Williams
Primary Examiner
Art Unit 2879